Neptune Serial E-POS PC

Neptune 1370 / 1478

Super Compact PC

User's Manual

Manual Revision 1.0 Feb, 2004

Please Read the Manual First.

CHAPTER 0 SAFETY INSTRUCTIONS & USER'S NOTICE

Electrical safety

1. To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.
2. When adding or removing devices to or from the system, please ensure all device power cords are unplugged before the signal cables are connected.
3. Make sure the voltage of the power source conforms within the permitted range before connecting the equipment to the power outlet. If you are not sure of the electricity voltage that you are using, contact your local electricity company.
4. Place the power cord in such a way that it cannot stepped on. Do not place anything over the power cord.
5. Always unplug the power cord before inserting any add-on card module.
6. Never pour any liquid into the opening as this could cause damage or electrical shock.
7. If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer.

Operation safety

1. Before installing any device into the system, carefully read all documents that come with the package.
2. Keep this User's Manual for future reference.
3. Keep this equipment away from humidity and dust.
4. Place the equipment on a steady flat surface before setting it up.
5. If any of the following situations arise, have the equipment checked by qualified service technician:
   - The power cord or plug is damaged
   - Liquid has penetrated into the equipment
   - The equipment has been exposed to moisture
   - The equipment is not working well or does not work as described in the User's Manual
   - The equipment has been dropped and damaged
   - The equipment has obvious signs of breakage
6. The openings on the housing are for air ventilation and to protect the equipment from overheating. DO NOT COVER THESE OPENINGS.
7. DO NOT LEAVE THIS EQUIPMENT IN A NON-AIRCONDITIONED ENVIRONMENT WHERE THE STORAGE TEMPERATURE MAY GO ABOVE 60ºC (140ºF) AS THIS CAN DAMAGE THE EQUIPMENT.
8. All cautions and warnings on the equipment should be noted.

CAUTION

- The technical descriptions and specifications of the product are subject to change without notice.
- For safety reasons, gloves should be worn when assembling the product.
- There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type of battery recommended by the manufacturer. Dispose used batteries according to the manufacturer's instructions.

NOTICES

Federal Communications Commission Statement (FCC Statement)

This device complies with FCC Rules Part 15. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received including interference that may cause undesirable operation.

This equipment has been tested and found to comply within the limits of a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by switching the equipment on and off, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the interference receiving antenna.
- Increase the distance of separation between the equipment and interference receiver.
- Connect the equipment to a power outlet on a circuit different from that to which the interference receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

WARNING!!

The use of shielded cables for connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Note

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

USER'S NOTICE

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CHAPTER 1 INTRODUCTION & SYSTEM CONFIGURATION

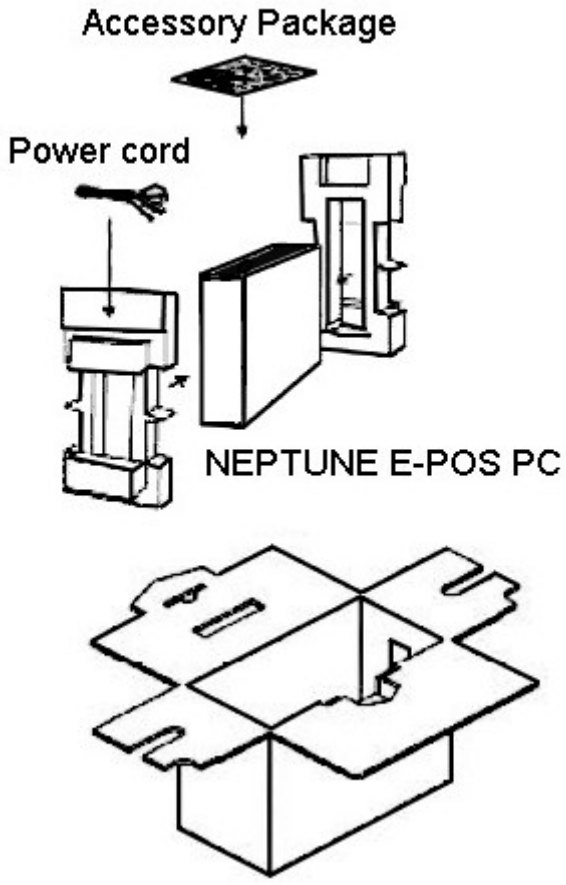
1.1 Introduction

Congratulations on the purchase of your Neptune E-POS PC!
You are now the owner of a state-of-the-art Neptune E-POS PC, the PC that offers enhanced features, speed and performance, and the PC that is unrivaled by other conventional PCs.

1.2 The System Unit Chassis:

The following information will help you to familiarize with the arrangements of the Neptune E-POS PC. When you open the package, you will find the items as illustrated in the pictures below:

- ☑ Neptune 1370 or 1478 E-POS PC
- ☑ AC Power Cord
- ☑ Accessory Package
  - -User's Manual
  - -Driver CD
  - -Front Cover Key



This diagram shows the total content of the box. In the side compartments of each box you will find the power cord, and in the center, you will find the system unit containing a 3.5-inch floppy disk, HDD (optional), and an internal CD-ROM (option) drive.

1.3 Pre-Installation Notes

Before you start operating your Neptune 1370 / 1478 E-POS PC, please read the following notes carefully. Thank you for your attention.

Please Note

a. Neptune E-POS PC serial ports: the default setting of COM1 IRQ setting is 4, COM2 IRQ setting is 3, COM3 IRQ setting is 5, and COM4 IRQ setting is 10.
b. The thermal pad on CPU can be easily damaged if CPU is being frequently removed and replaced. If the thermal pad is damaged due to the above reason, please contact your supplier/distributor for replacement of the thermal pad.
c. If you need to replace the HDD, please arrange the cables in the original fashion.
d. For reasons of installation and compatibility, you are suggested to use the DDR RAM Module from the original manufacturer.
e. The +5V/+12V external DC output for the 9th pin of each COM port should be less than 0.5 A.
f. For updated VGA/LAN drivers, please contact your supplier/distributor.
g. The USB device connector of Hot Swap: please do not plug or unplug any connector when the system's power is "on".
h. You have the alternative of using either the front audio or the rear audio connector to play sound.

Limitations

Output Voltage Connector	Nominal	Max Current
9th PIN of COM1	5V / 0.5A, 12V / 0.5A	5V / 0.7A, 12V / 0.6A
9th PIN of COM2	5V / 0.5A, 12V / 0.5A	5V / 0.7A, 12V / 0.6A
9th PIN of COM3	5V / 0.5A, 12V / 0.5A	5V / 0.7A, 12V / 0.6A
9th PIN of COM4	5V / 0.5A, 12V / 0.5A	5V / 0.7A, 12V / 0.6A
DC 24V for POS Printer	1.5A	2.0A
DC 12V for LCD Monitor	2.0A	3.0A

Suggestions

We strongly recommend you to use the following add-on devices if you need to expand the functions of Neptune E-POS PC.

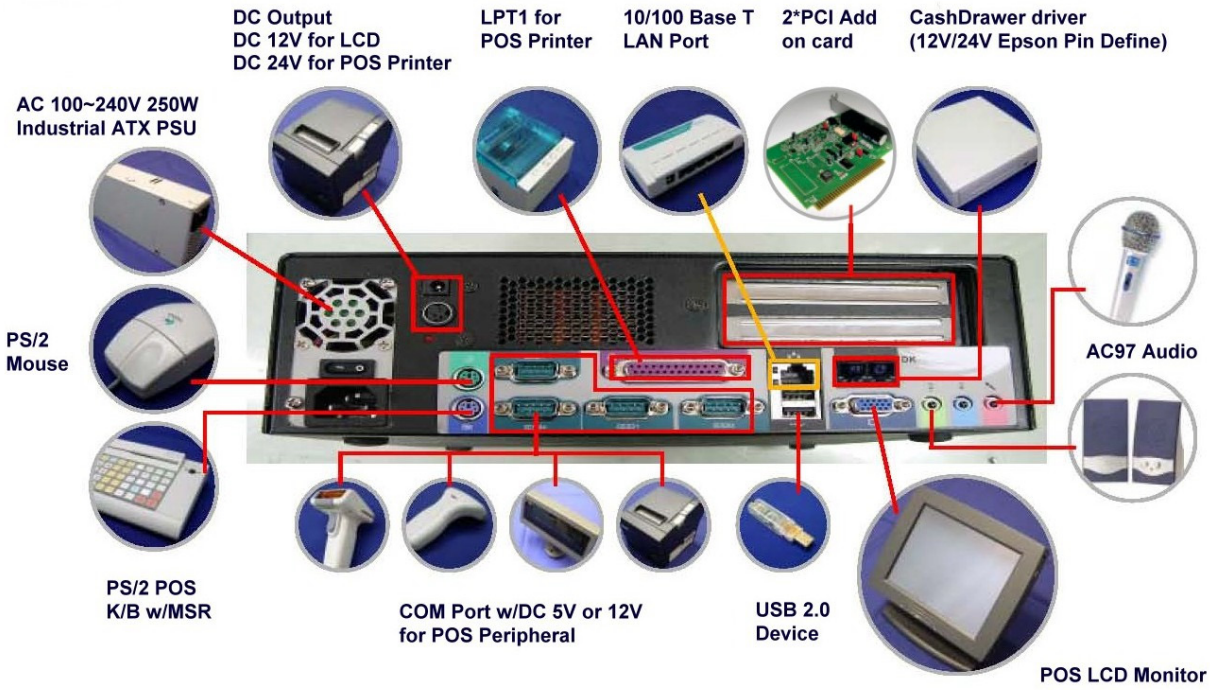
Add-on card type	Brand	Model No.	Remark
LAN	Reltek	RTL8139C / D	10/100 Base T
	SIS	SIS900	10/100 Base T
	D-Link	DFE-530TX	10/100 Base T
	3 COM	3C905C	10/100 Base T
Modem Card	Motorola	SM56	56K
	Conexant (Rockwell)	MD-56KUR4	56K
Wireless LAN	D-Link	DWL-520+	IEEE 802.11b
	D-Link	DWL-G520+	IEEE 802.11g
RAID Card	Promise	Fast TRAK 100 TX2	RAID 0 / 1 / 0+1
CF Card	PQI	32MB ~ 512MB	Industry level
Disk On Module	PQI	16MB ~ 512MB	IDE ATA 40 PIN
2nd VGA PCI Card		SMI722	
PCMCIA PCI slot Card		Card bus	16/32 bit, 3.3V/5V

Note:

Maximum Dimensions of PCI Add-On Card are 110 mm (Height) x 140 mm (Length).

1.4 The Front Panel Composition

1.5 Rear Panel Composition



1.6 System Internal Composition

Neptune 1370 M/B

Neptune 1478 M/B

System Structure

High Efficiency water cooling system

Full Range ATX PSU

Neptune 1370/1478
E-POS PC

Storage Device

Compact Size

CHAPTER 2 UPGRADES

Your warranty remains in effect only if all internal settings are done by the authorized dealer or technicians. This section is intended only for users who wish to perform adjustments by themselves and thereby void the warranty.
At any time, you can add (or remove) hardware to (or from) your Neptune E-POS PC and modify its capabilities. The information in this chapter will provide instruction on how to open the chassis.

2.1 Removing the Cover

WARNING: Make sure that the power of your system, as well as any peripheral devices, has been turned off before removing the chassis.

Tools

You will need a few simple tools to disassemble a Neptune E-POS PC.

* A screwdriver
* Labeling material (tape, paper, pen)
* Cups or trays to temporarily store various screws

2.2 Installing Add-On Cards

In the future, you may need to install one or more Add-On Cards. The Neptune E-POS PC includes 2 PCI slots for the addition of peripherals.

WARNING: Because Neptune E-POS PC has the space-saving design, the format of add-on cards that can be installed is restricted to the following –

Maximum PCI card dimensions: 110 mm (Height) x 140mm (Length).

Please make sure that the add-on card that you are going to install in the Neptune E-POS PC system conforms to these requirements.

After physically installing the add-on card, configure the card by adjusting the software settings.

1. Turn on the system and change the BIOS settings, if necessary. See Chapter 4 for more information on BIOS setup.
2. Assign an IRQ to the card. Refer to the table below.
3. Install the software driver for the add-on card.

IRQ	Priority	Standard Function
0	1	System Timer
1	2	Keyboard Controller
2	N/A	Programmable Interrupt
3 *	11	Communications Port (COM2)
4 *	12	Communications Port (COM1)
5 *	13	Communications Port (COM3)
6	14	Floppy Disk Controller
7 *	15	Printer Port (LPT1)
8	3	System CMOS/Real Time Clock
9 *	4	ACPI Mode when used
10 *	5	Communications Port (COM4)
11 *	6	IRQ Holder for PCI steering
12 *	7	PS/2 Compatible Mouse Port
13	8	Numeric Data Processor
14 *	9	Primary IDE Channel
15 *	10	Secondary IDE Channel

*These IRQs are usually available for ISA or PCI devices.

2.3 Installing a Hard Disk Drive

WARNING: If you buy a Neptune E-POS PC without a Hard Disk Drive and you would like to upgrade it later, please consult with your dealer.

2.4 Memory Configuration

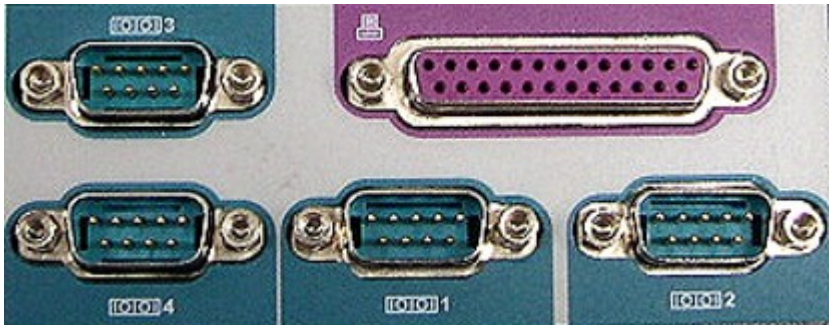
The Neptune E-POS PC allows you to increase the system's main memory via onboard DIMM Sockets. The Neptune E-POS PC supports two banks of 128/256/512/1024 MB DIMM Modules.

CPU FSB	DDR DIMM Type	Memory Frequency
800 MHz	PC3200 / PC2700* / PC2100	400 / 333* / 266 MHz
533 MHz	PC2700 / PC2100	333 / 266 MHz
400 MHz	PC2100	266 MHz

***Note**

1. When using 800MHz CPU FSB, PC270 DDR DIMM may run only at 320MHz (not 333MHz) due to chipset limitation.
2. If you wish to upgrade the memory, please consult with your dealer.

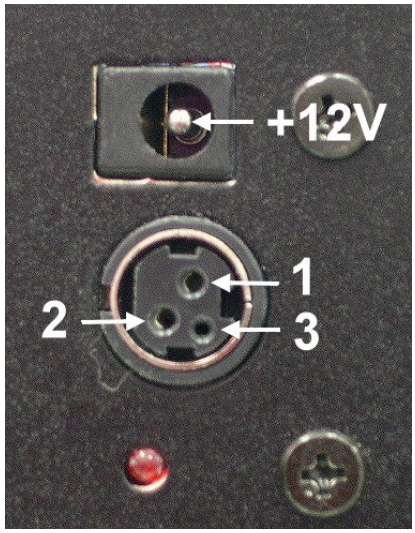
2.5 Installing Serial and Parallel Port Devices



1. Please confirm the serial and parallel ports in sequence from above Figure.
2. If you wish to support +5V / +12V output from 9th PIN of serial ports, please consult with your dealer.

2.6 Installing DC of LCD and POS Printer output

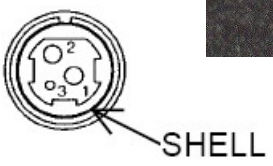
1. The voltage output of the 2.5mm jack is +12V for LCD Monitor.
2. The voltage output of the Hosiden jack is +24V for POS Printer.



Note

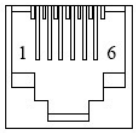
1. If the 2.5mm jack is used to power an LCD, extra caution needs to be taken in the event when the cable comes loose. If the cable becomes detached, either on the Neptune E-POS PC end or the LCD end, first switch off the monitor using the power button on the front of the LCD, and then re-attach the cable. If this is not carried out correctly and the LCD is left on while trying to re-connect the cable, there is a risk of blowing the fuse or even damage the Neptune E-POS PC.
2. Ensure that the POS Printer is switched off before you plug in or remove the Hosiden connector to/from the Neptune E-POS PC.

Hosiden Pin Number	Signal Name
1	+24V
2	Ground
3	NC
SHELL	Frame Ground



2.7 Installing a Cash Drawer

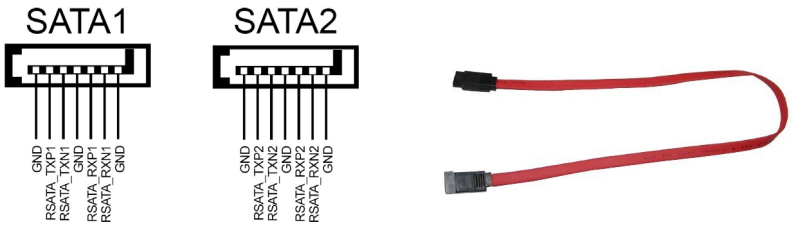
Pin Number	Signal Name	Direction
1	Frame GND	—
2	Drawer kick-out drive signal	Output
3	Drawer open / close signal	Input
4	+24V / +12V	+24V Default
5	NC	Output
6	Signal GND	—



Note: +24V is outputted through pin 4 when the power is turned on. However, pin 4 must be used only for cash drawer.

2.8 Installing the Serial ATA Hard Disk Drive (Neptune 1478 only)

These next generation connectors support the thin Serial ATA cables for serial ATA hard disks. The current Serial ATA interface allows a data transfer rate of up to 150 MB/s, faster than the standard parallel ATA with 133 MB/s (Ultra ATA/133).



Parallel ATA and Serial ATA device configurations

Following are the Parallel ATA and Serial ATA device configurations supported by Intel ICH5 specifications.

Native OS are Windows 2000/XP. ICH5 supports a maximum of six devices using these OS. Legacy OS are MS-DOS, Windows 98/Me/NT4.0. ICH5 supports a maximum of four devices using these OS.

Operating System	**P-ATA**		**S-ATA**	
	Primary (2 devices)	**Secondary** (2 devices)	**Port0** (1 devices)	**Port1** (1 devices)
Windows 2000/XP	v	v	v	v
Windows 98/Me/NT4.0				
Configuration A	v	—	v	v
Configuration B	—	v	v	v
Configuration C	v	v	—	—

Legend:

v Supported
— Disabled

Required IDE Configuration settings in BIOS

Refer to the following table for the appropriate BIOS settings of the above P-ATA and S-ATA device configurations.

BIOS Item	**Windows 2000/XP**	**Windows 98/Me/NT4.0**		
		A	**B**	**C**
Onboard IDE Operation Mode	Enhanced Mode	Compatible Mode	Compatible Mode	Compatible Mode
Enhanced Mode Support On	S-ATA	—	—	—
IDE Port Settings	—	Primary P-ATA+S-ATA	Sec. P-ATA+S-ATA	P-ATA Ports Only

Neptune 1478 E-POS PC Socket 478 Specifications

Item	Description	
CPU	Supports Intel P4 up to 3.2GHz / Celeron up to 2.8GHz Socket 478 CPU	
FSB	400 / 533 / 800MHz	
Main Memory	184-Pin DDR RAM * 2 up to 2GB. (DDR 266 / 333 / 400)	
System Chipset	North Bridge: Intel 865GV, South Bridge: Intel ICH5.	
BIOS	Enhanced ACPI 2.0 / PnP / APM / DMI / ESCD / PCI bus 2.2 / On Now / DRAM ECC Quick Boot/ HW Monitor (LDCM) / I-O Pre-set IRQ / Spread Spectrum / PC98 compliant	
Parallel Port	One LPT port (SPP/EPP/ ECP); IRQ and address selector by BIOS setup	
Serial Port	COM1, COM2, COM3, COM4 IRQ selector by BIOS setup (jumper less) and +5v or +12V output on pin 9th by jumper selector	
USB	Four USB 2.0 ports that support Windows 98 / 2000 / XP	
Floppy Disk Port	Standard 1.44MB FDD x 1	
FDD	1.44MB 3.5" FDD x 1	
Enhance PCI IDE	On board PCI Bus Master IDE1/2 controller with Windows utility; supports Ultra DMA66/100	
AGP 3D Graphics Port	Intel 865GV AGP; shared memory from 1MB up to 32MB	
	-Supports AGP 3.0 (8X) VGA controller	-Direct X, VPE, MPEG4
	-Supports DVD Video Accelerator	-PC98 compliant
	-Supports 3D/2D Accelerator	-Supports VESA DPMS VGA monitor
	-NT4.0/5.0, Windows95/98/2000 utility	-APM/ACPI 2.0
PCI LAN Port	-ACPI/NT4.0/5.0 (NDIS 5) (10/100 Mbps Auto)	
	-Supports Remote Boot ROM for Windows NT 4.0/5.0, 2000, XP and Linux	
	-NT4.0/Win95/98/2000/XP Utility	
	-PC98 compliant	
	-Enable or Disable by BIOS setup	
Audio Port	AC97 CODEC on board	
PS/2 Keyboard Port	PS/2 type	
PS/2 Mouse Port	PS/2 type	
Front Panel	-AC power on/off Trigger button. Reset Button.	
	-Cover with Key Lock for FDD / CD ROM / CF and Power switch.	
	-5 LED indicators: Power On/Off, HDD, CF state & LAN state and Suspend Mode LED.	
	-3.5" FDD Bay * 2 (2.5" IDE HDD Rack with Keylock Ready)	
	-USB3 / USB4 Connector	
	-ATA Compact Flash Card Type I/II Socket	
Rear Panel	-VGA 15-pin DSUB connector	-LAN RJ-45 output connector
	-COM 1/2 9-pin DSUB output	-USB1/USB2 connector
	-COM 3/4 9-pin DSUB output	-LPT 25-pin DSUB connector
	-PS/2 keyboard & mouse connector	-Audio Line in / Line out / MIC-in
	-DC12V Power outlet for LCD Display Source	
	-DC 24V Power outlet for POS Printer (Hosiden 3 PIN)	
	-2 * Cash Drawer Kick-Out Driver with EPSON RJ-12 Connector (12V or 24V Solenoid Type)	
Thermal Solution	-One low noise 60mm FAN (two ball) for CPU Heat-Sink and Air Tunnel	
	-One low noise 60mm FAN (two ball) for Power Supply	
Expansion Slots	Two free PCI slots riser card	
AC Power Supply	ATX 250W Internal Power Supply (UL, CSA, VDE, EMI meets FCC “B”) with Power Switch	
AC Power Source	AC 90V to 264V, 47Hz / 63Hz	
Vertical Stand	Two U type Foot Stands Per Set (Option)	
Case Dimension	11.6” (W) x 13.5” (D) x 3.7” (H) (295 x 345 x 95 mm)	
Export Packing	Each packing set: 34 x 34 x 17cm NW/GW: 8.5kg/10.5kg	
S/W Compatibility	DOS/OS2 V2.1 /XENIX V2.3.2/UNIX V3.2/NOVELL/ WIN 3.1/95/98/2000/XP/NT4.0	
Operation Temperature	0ºC to 40ºC (without HDD up to 50ºC)	
Storage Temperature	-25ºC to 70ºC	
OPTIONS		
PCI Modem Card	Win98/2000/XP utility (33.6 or 56K) supports PCI2.2 / ACPI2.0.	
PCI Wireless LAN Card	Win98/2000/XP utility supports IEEE 802.11b or 802.11g	
PCI ATA RAID Card	Win98/2000/XP utility supports RAID 0 / 1 / 0+1	
IDE2 CD-ROM	On board PCI Bus Master IDE1/2 controller with Win98/2000/XP utility; Ultra DMA/33	
Disk On Module Port	16 to 512 MB ATA IDE type DOM socket	
2nd VGA PCI card	2nd VGA output	

Specifications are subject to change without notice.

Neptune 1370 E-POS PC Socket 370 Specifications

Item	Description	
CPU	Supports Intel PIII / Celeron up to 1.26GHz / 1.4GHz and VIA C3 up to 1GHz or more CPUs	
FSB	66 / 100 / 133MHz	
Main Memory	184-Pin DDR RAM * 2 up to 2GB. (DDR 266)	
System Chipset	North Bridge: VIA VT8623 (CLE266), South Bridge: VT8235	
BIOS	Enhanced ACPI 1.0 / PnP / APM / DMI / ESCD / PCI bus 2.2 / On Now / DRAM ECC Quick Boot/ HW Monitor (LDCM) / I-O Pre-set IRQ / Spread Spectrum / PC98 compliant	
Parallel Port	One LPT port (SPP/EPP/ ECP); IRQ and address selector by BIOS setup	
Serial Port	COM1, COM2, COM3, COM4 IRQ selector by BIOS setup (jumper less) and +5v or +12V output on pin 9th by jumper selector	
USB	Four USB 2.0 ports that support Windows 98 / 2000 / XP	
Floppy Disk Port	Standard 1.44MB FDD x 1	
FDD	1.44MB 3.5" FDD x 1	
Enhance PCI IDE	On board PCI Bus Master IDE1/2 controller with Windows utility; supports Ultra DMA66/100	
AGP 3D Graphics Port	VT8623 AGP; shared memory from 1MB up to 64MB	
	-Supports AGP 2.0 (4X) VGA controller	-Direct X, VPE, MPEG2
	-Supports DVD Video Accelerator	-PC98 compliant
	-Supports 3D/2D Accelerator	-Supports VESA DPMS VGA monitor
	-NT4.0/5.0, Windows95/98/2000 utility	-APM/ACPI 1.0
PCI LAN Port	-ACPI/NT4.0/5.0 (NDIS 5) (10/100 Mbps Auto)	
	-Supports Remote Boot ROM for Windows NT 4.0/5.0, 2000, XP and Linux	
	-NT4.0/Win95/98/2000/XP Utility	
	-PC98 compliant	
	-Enable or Disable by BIOS setup	
Audio Port	AC97 CODEC on board	
PS/2 Keyboard Port	PS/2 type	
PS/2 Mouse Port	PS/2 type	
Front Panel	-AC power on/off Trigger button. Reset Button.	
	-Cover with Key Lock for FDD / CD ROM / CF and Power switch.	
	-5 LED indicators: Power On/Off, HDD, CF state & LAN state and Suspend Mode LED.	
	-3.5" FDD Bay * 2 (2.5" IDE HDD Rack with Keylock Ready)	
	-USB3 / USB4 Connector	
	-ATA Compact Flash Card Type I/II Socket	
Rear Panel	-VGA 15-pin DSUB connector	-LAN RJ-45 output connector
	-COM 1/2 9-pin DSUB output	-USB1/USB2 connector
	-COM 3/4 9-pin DSUB output	-LPT 25-pin DSUB connector
	-PS/2 keyboard & mouse connector	-Audio Line in / Line out / MIC-in
	-DC12V Power outlet for LCD Display Source	
	-DC 24V Power outlet for POS Printer (Hosiden 3 PIN)	
	-2 * Cash Drawer Kick-Out Driver with RJ-12 Connector (12V or 24V Solenoid Type)	
Thermal Solution	-One low noise 60mm FAN (two ball) for CPU Heat-Sink and Air Tunnel	
	-One low noise 60mm FAN (two ball) for Power Supply	
Expansion Slots	Two free PCI slots riser card	
AC Power Supply	ATX 250W Internal Power Supply (UL, CSA, VDE, EMI meets FCC “B”) with Power Switch	
AC Power Source	AC 90V to 264V, 47Hz / 63Hz	
Vertical Stand	Two U type Foot Stands Per Set (Option)	
Case Dimension	11.6” (W) x 13.5” (D) x 3.7” (H) (295 x 345 x 95 mm)	
Export Packing	Each set packing: 34 x 34 x 17cm NW/GW: 8.5kg/10.5kg	
S/W Compatibility	DOS/OS2 V2.1 /XENIX V2.3.2/UNIX V3.2/NOVELL/ WIN 3.1/95/98/2000/XP/NT4.0	
Operation Temperature	0ºC to 40ºC (without HDD up to 50ºC)	
Storage Temperature	-25ºC to 70ºC	
OPTIONS		
PCI Modem Card	Win98/2000/XP utility (33.6 or 56K) supports PCI2.2 / ACPI2.0.	
PCI Wireless LAN Card	Win98/2000/XP utility supports IEEE 802.11b or 802.11g	
PCI ATA RAID Card	Win98/2000/XP utility supports RAID 0 / 1 / 0+1	
IDE2 CD-ROM	On board PCI Bus Master IDE1/2 controller with Win98/2000/XP utility; Ultra DMA/33	
Disk On Module Port	16 to 512 MB ATA IDE type DOM socket	
Dual VGA out card	2nd VGA output	

Specifications are subject to change without notice.

Power Supply Specifications

Input Regulations

Input Voltage Range (Auto Switching)	Min	Nom	Max
Voltage 110V	90V	100V ~ 127V	140V
Voltage 220V	180V	200V ~ 240V	264V
Input Frequency Range	47 Hz to 63Hz		
Maximum Input AC Current	6A maximum at 115VAC		
	3A maximum at 230VAC		
Inrush Current	90A maximum at 115VAC		
Efficiency	70% min. at nominal input, maximum load.		

Output Regulations

Output Voltage	Range	Min	Nominal	Max	Units
+5v	±5%	+4.75	+5.00	+5.25	Volts
+12v	±5%	+11.40	+12.00	+12.60	Volts
-12v	±10%	-10.80	-12.00	-13.20	Volts
-5v	±5%	-4.75	-5.00	-5.25	Volts
+3.3v	±5%	+3.14	+3.30	+3.47	Volts
+5vsb	±5%	+4.75	+5.00	+5.25	Volts

Note:

1. **The above voltage range should also include ripple and noise.**
2. **The output voltage should be measured at the terminals of output connector.**

DC Load Requirements

Output Voltage	Min Current	Max Current	Peak Current	Units
+5V	1.5	19		AMPS
+12V	2.0	16	24	AMPS
-12V	0.0	0.8		AMPS
-5V	0.0	0.1		AMPS
+3.3V	1.0	18		AMPS
+5Vsb	0.0	2.0		AMPS

Note:

1. **The maximum continuous total DC output power shall not exceed 250 Watts.**
2. **The maximum continuous combined load on +5V and +3.3V outputs shall not exceed 105W(22A)**
3. **The maximum continuous combined load on +5V, +3.3V and +12V outputs shall not exceed 230 Watts.**
4. **Peak currents may last up to 0.5 seconds with not more then one occurrence per minute.**

Over Voltage Protection

When the DC outputs (+5V, +12V, and +3.3V) have over voltage condition, the power supply shall provide latch mode over voltage protection.

DC output	Max	Unit
+12V	15.6	V
+5V	7.0	V
+3.3V	4.3	V

Short Circuit Protection

A short circuit placed to ground shall cause no damage and shall be shutdown. (The contact resistance is 0.05 ohm when the outputs short circuit.)

Protection Reset

When the power supply latches into shutdown condition due to a fault on an output (OPP, OVP, LVP), the protection shall reset after the fault has been removed, use remote on/off control or recycle the AC power again for a typical of 3 seconds.

Over Shoot

Any output overshoot at turn on shall be less than 10% of the nominal output value (with resistive load) as described in sec. ***Input Regulations***.

Over Power Protection

At 115/230 VAC input the power supply will shut down all DC outputs within 105% to 140% of full load.

FAQ

Below is a collection of frequently asked questions.

Question 1: I cannot see some options that appeared in the previous BIOS settings after updating BIOS. Why?

Answer: Some advanced options are hidden in the new BIOS version. Please press Ctrl and F1 keys after entering the BIOS menu to see these options.

Question 2: Why is the light on the keyboard / optical mouse still on after computer shuts down?

Answer: In some boards, a small amount of electricity is kept on standby after the computer shuts down, which is why the light is still on.

Question 3: How do I clear CMOS?

Answer: If your board has a Clear CMOS jumper, please refer to the Clear CMOS steps in the manual. If your board does not have such jumper, you can take off the on-board battery to leak voltage and to clear CMOS. Please refer to the steps below:

Steps:

1. Turn off power.
2. Switch off the power from ATX PSU.
3. Take out the battery gently and put it aside for about 10 minutes (or you can use a metal object to connect the positive and negative pins in the battery holder to short-circuit for one minute).
4. Re-insert battery to the battery holder.
5. Switch on the power again.
6. Press Del to enter BIOS and Load Optimized Defaults.
7. Save changes and reboot the system.

Question 4: Why does system seem unstable after updating BIOS?
Answer: Please remember to load Optimized Defaults (or load SETUP Default) after flashing BIOS. However, if the system still remains unstable, please clear CMOS to solve the problem.

Question 5: Why do I still get a weak sound even if the speaker is turned to the maximum volume?
Answer: Please make sure the speaker you are using is equipped with an internal amplifier. If not, please change another speaker with power/amplifier and try again.

Question 6: How to set the BIOS in order to boot-up from SATA HDDs by either ATA mode?
Answer: Please set the BIOS as follow:

1. Advanced BIOS features→ SATA/RAID/SCSI boot order: “SATA”
2. Advanced BIOS features→ First boot device: “SCSI”
3. Integrated Peripherals→ Onboard H/W Serial ATA: “enable”

Then it depends on the SATA mode that you need to set “BASE” to normal ATA mode in the item named Serial ATA function.

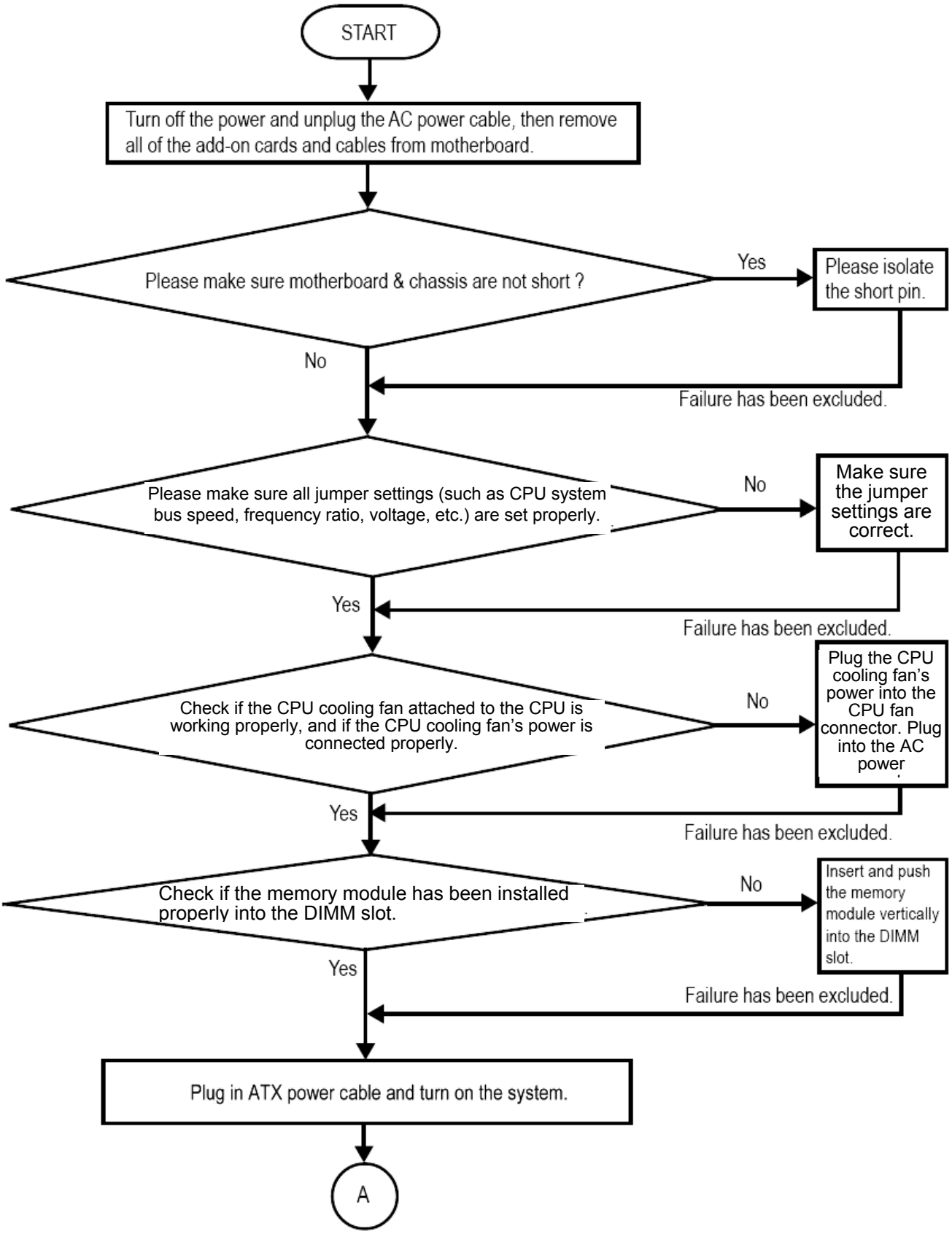
Question 7: How to set the BIOS to boot-up from the IDE/SCSI/RAID card?
Answer: Please set the BIOS as follows:

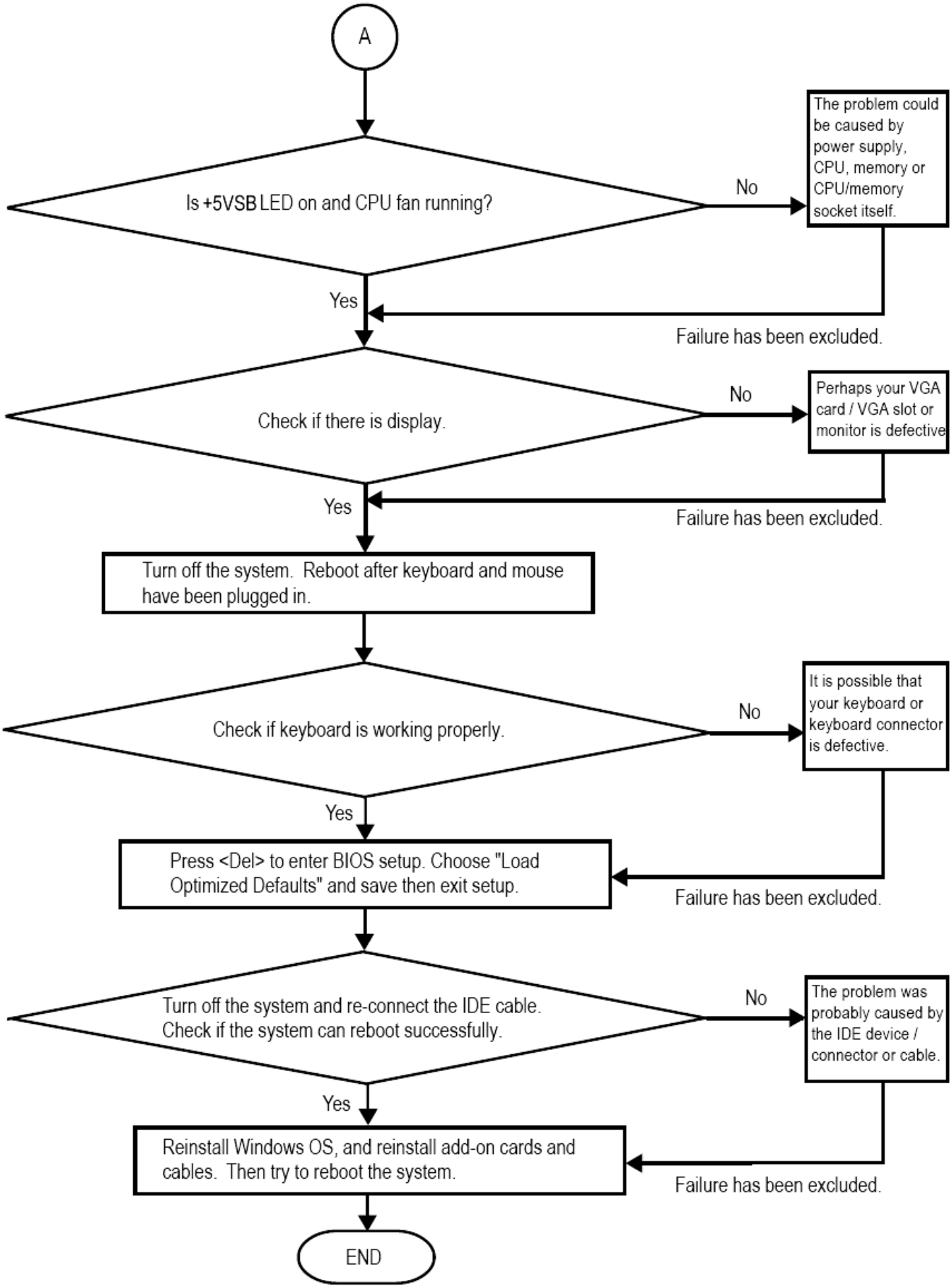
1. Advanced BIOS features→ SATA/RAID/SCSI boot order: “SCSI”
2. Advanced BIOS features→ First boot device: “SCSI”

Then it depends on the mode (RAID or ATA) that you need to set in RAID/SCSI BIOS.

Troubleshooting

If you encounter any trouble during boot up, please follow the troubleshooting procedures.


START
Turn off the power and unplug the AC power cable, then remove all of the add-on cards and cables from motherboard.
Please make sure motherboard & chassis are not short ?
Yes
Please isolate the short pin.
No
Failure has been excluded.
Please make sure all jumper settings (such as CPU system bus speed, frequency ratio, voltage, etc.) are set properly.
No
Make sure the jumper settings are correct.
Yes
Failure has been excluded.
Check if the CPU cooling fan attached to the CPU is working properly, and if the CPU cooling fan's power is connected properly.
No
Plug the CPU cooling fan's power into the CPU fan connector. Plug into the AC power
Yes
Failure has been excluded.
Check if the memory module has been installed properly into the DIMM slot.
No
Insert and push the memory module vertically into the DIMM slot.
Yes
Failure has been excluded.
Plug in ATX power cable and turn on the system.
A


A
Is +5VSB LED on and CPU fan running?
No
The problem could be caused by power supply, CPU, memory or CPU/memory socket itself.
Yes
Failure has been excluded.
Check if there is display.
No
Perhaps your VGA card / VGA slot or monitor is defective
Yes
Failure has been excluded.
Turn off the system. Reboot after keyboard and mouse have been plugged in.
Check if keyboard is working properly.
No
It is possible that your keyboard or keyboard connector is defective.
Yes
Press <Del> to enter BIOS setup. Choose "Load Optimized Defaults" and save then exit setup.
Failure has been excluded.
Turn off the system and re-connect the IDE cable. Check if the system can reboot successfully.
No
The problem was probably caused by the IDE device / connector or cable.
Yes
Reinstall Windows OS, and reinstall add-on cards and cables. Then try to reboot the system.
Failure has been excluded.
END

If you are still unable to solve your problem after having followed the above procedures, please contact your local retailer or national distributor for help.